

## RESEARCH PAPER

# Socially cued smoking in bars, nightclubs, and gaming venues: a case for introducing smoke-free policies

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**Objective:** To assess smokers' perceived effects of smoking bans in bars, nightclubs, and gaming venues on their smoking behaviour.

**Design:** Cross sectional structured interview telephone survey of a random sample of smokers.

**Setting:** Population survey in Victoria, Australia.

**Participants:** The sample comprised 597 smokers and analyses were conducted on 409 smokers who reported patronising bars, nightclubs or gaming venues at least monthly.

**Outcome measures:** Two outcomes studied were socially cued smoking and readiness to quit as a result of restrictions on smoking in social venues. Respondents were identified as socially cued smokers if they reported attending bars, nightclubs or gaming venues at least monthly and said that they smoke more in these venues. The potential influence of bans in social venues on readiness to quit was measured by asking respondents if they would be more or less likely to quit smoking if smoking were banned in hotels, licensed bars, gaming venues, and nightclubs.

**Results:** Of all adult smokers, 69% attended bars, nightclubs or gaming venues at least monthly. Of these smokers, 70% reported smoking more in these settings (socially cued smokers) and 25% indicated they would be likely to quit if smoking were banned in social venues. Compared to smokers not likely to quit if there were bans, smokers likely to quit were more likely to be socially cued (odds ratio (OR) 2.64), to be contemplating or preparing to quit (OR 2.22), to approve of bans in social venues (OR 2.44), and to be aged under 30 years (OR 1.73). Compared with smokers not socially cued, socially cued smokers were more likely to be under the age of 30 years (OR 6.15), more likely to believe that there is a safe level of cigarette consumption (OR 2.25), and more likely to have previously made a quit attempt (OR 2.60).

**Conclusions:** These findings suggest that bans on smoking in bars, nightclubs, and gaming venues could reduce cigarette consumption and increase quitting among smokers who frequently patronise these settings. These beneficial effects are likely to be strongest among younger smokers.

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The effect of restrictions on smoking in the workplace and at home has been well documented in the literature, but there has been little study of the effects of smoking policies on smoking behaviour in social settings such as bars, nightclubs, and gaming venues ("social venues"). Smoking restrictions in the workplace and at home have been found to contribute to reduced consumption,<sup>1,2</sup> intentions to quit, relapse prevention,<sup>3</sup> and possibly increased cessation,<sup>4,5</sup> as well as send a message that smoking is socially unacceptable.<sup>6</sup> Although the main purpose of smoking restrictions in public places is to reduce exposure to environmental tobacco smoke, it may also have the effect of reducing tobacco consumption and encouraging quitting.

The literature on situational influences on smoking relapse supports the notion that restrictions on smoking in venues such as bars and nightclubs may remove the social pressure to smoke. Social situations exert a powerful influence on smoking relapse, with around a quarter of relapse crises occurring in settings such as bars and restaurants.<sup>7,8</sup> Shiffman<sup>7</sup> explained this as being caused by exposure to other smokers—involving both direct offers of cigarettes and indirect pressure through observation of other smokers—as well as the influence of alcohol weakening willpower to avoid smoking.

Another possible consequence of restrictions on smoking in social venues is the prevention or delay of smoking uptake. A relatively new line of evidence has begun to suggest that bans in public places may reduce smoking among young people.<sup>9,10</sup> Given that the people who patronise social venues are mostly young, smoking bans in these settings might also serve to

interrupt the process of progression from experimentation with smoking to long term tobacco dependence. Although many of the factors that influence the uptake of smoking are present at a very young age and school aged children are often targeted for intervention, the period after leaving school has been identified as a critical time for transition to regular smoking.<sup>11,12</sup> The role of situational influence may be greatest early on when smoking among young people is not so influenced by addiction.<sup>13</sup>

Recreational venues that allow smoking expose young people to contexts in which smoking may be viewed as the norm. This may encourage their progression to more regular smoking. Pierce and others<sup>14,15</sup> found that exposure to smokers distinguished adolescents who progressed to established smoking from those who remained experimenters. Further, the tobacco industry is actively promoting tobacco in bars and nightclubs which may contribute to smoking uptake and relapse back to smoking for those trying to quit. Studies of tobacco industry documents<sup>16,17</sup> have found that bar promotions are generally targeted at a young adult audience and characterise cigarettes as being part of a glamorous lifestyle that includes attendance at nightclubs and bars. This finding is consistent with the evidence from a recent study of tobacco promotions that found a large increase in entertainment focused promotions—mostly bar-club and event promotions.<sup>18</sup>

Many jurisdictions in Australia, Canada, the USA, and other countries have legislated smoking restrictions in public places. With few exceptions, smoking policies apply to restaurants but do not extend to bars, nightclubs or gaming venues. The potential effects of smoking restrictions in bars, nightclubs,

and gaming venues on smoking behaviour may be better understood by examining the behaviour, beliefs, and opinions of smokers who frequently patronise these venues.

## METHOD

Data were drawn from a telephone survey conducted in November 2000 in the state of Victoria, Australia. The survey was conducted by a large market research company. Only respondents aged 18 years and over were interviewed. A total of 417 smokers were interviewed from a random sample of 2000 Victorians, of which smokers comprised 21%. A survey of 1000 Victorians conducted by another company using the same method and questionnaire was used to boost the number of smokers. Only smokers were interviewed and they comprised 18% of this sample ( $n = 180$ ). Thus, 597 smokers were interviewed in total.

The sampling frame for the survey was derived from a current CD-ROM telephone directory database. The data collection occurred over a period of 10 days, including weekend days and weekday evenings. Response rates have been calculated as the proportion of all telephone contacts made that resulted in a useable interview. There were 2000 useable interviews (31%) out of 6488 numbers contacted and, for the boost sample, there were 1001 useable interviews (46%) out of 2173 numbers contacted. Part of the reason for the differential response rates may have been that the booster survey was shorter for non-smokers, comprising only a question on tobacco use. There was no other obvious reason for the difference in response rates; however, a comparison of frequency distributions between survey samples showed no differences in sample composition.

## Variables

Smoking status was measured using questions developed by a national expert committee convened by the Australian Institute of Health and Welfare.<sup>19</sup> "Smokers" were defined as those who reported current smoking either "daily", "weekly" or "less than weekly". "Socially cued smokers" were defined as smokers who reported going to either bars (described as hotel or licensed bar), nightclubs or gaming venues (described as gaming venue to play poker machines) ("social venues") at least monthly and reported that they smoke more in these venues. "Not socially cued smokers" were defined as smokers who go to social venues at least monthly and do not report that they smoke more in these venues.

Smoking behaviour was described in terms of consumption<sup>20</sup> ( $\leq 5$  or  $> 5$  cigarettes per day) and time to first cigarette for the day<sup>21</sup> (first cigarette for the day  $\leq 29$  or  $> 29$  minutes after waking). These variables were combined to provide an indication of nicotine dependence. Those considered addicted either smoked more than five cigarettes per day or smoked their first cigarette of the day less than 30 minutes after waking. Smokers were designated as being in precontemplation if they indicated that were not planning to quit in the next six months<sup>22</sup> and smokers who did so respond were designated as being in contemplation/preparation.

To measure the potential influence of bans in social venues on readiness to quit, respondents were asked "if smoking were banned in hotels, licensed bars, gaming venues and nightclubs, would you be more or less likely to quit smoking altogether?" with respondents able to indicate "more likely", "less likely" or "no difference". Respondents were also asked "do you think that there is a safe number of cigarettes that you can smoke before it affects your health?".

Respondents were asked if they approve or disapprove of the government banning smoking in bars, nightclubs or gaming venues. A variable was constructed that combined responses for each of these variables into two categories: "approval/neither approve or disapprove" or "disapproval". Demographic information was also collected, including age

**Table 1** Frequency distribution of patronage at social venues ( $n=597$ )

	Bars (%)	Nightclubs (%)	Gaming venues (%)
More than weekly	13.4	2.7	2.8
At least once a week	16.6	5.4	5.4
At least once every 2 weeks	11.6	5.2	5.4
At least once a month	18.1	8.2	9.7
Less than once a month	25.3	24.5	31.0
Never	14.6	54.1	45.7
Don't know	0.5	0	0

( $\leq 29$  or  $> 29$  years), sex, and education (tertiary education "more" or secondary school and lower "less").

## Statistical analyses

All analyses were undertaken using the statistical package SPSS Version 10.0.7. Conventional  $\chi^2$  tests were used to test for associations between likelihood of quitting if bans were in place, type of smoker (socially cued or not socially cued), and the variables of interest. A significance level of 0.05 was adopted. All variables were initially included in logistic regression analysis predicting key outcomes. Because of missing data, this led to a reduction in sample size, so the analyses were repeated using only the significantly related variables (and those almost significant) to maximise sample size. In no case did this affect the variables included and the data reported are on the maximal sample.

A comparison of the age and sex distribution for the survey with Australian Bureau of Statistics population estimates for Victoria in 2000<sup>23</sup> indicated that the sample was representative of the population except that women (survey 59.4% v population 50.1%) and people aged 60 years and older (19.8% v 12.1% population) were over represented in the sample. The sample was weighted by age and sex according to population census data to estimate the proportion of smokers in Victoria who attend social venues monthly, smoke more in these venues, and are likely to quit if there were bans in social venues. However, weighting procedures were not used in the  $\chi^2$  and logistic regression analyses.

## Research questions

We sought to determine: (1) to what extent smokers who frequently patronised social venues were likely to quit smoking if there were bans in social venues; (2) the characteristics of smokers who indicated they were likely to quit if there were bans in these social venues; and (3) the characteristics of social smokers.

## RESULTS

The proportion of smokers in Victoria who attend social venues monthly was estimated to be 69.4% (95% confidence interval (CI) 65.5% to 73.2%). Of this group, 70.1% (95% CI 65.5% to 74.6%) smoke more in social venues and 25.4% (95% CI 21.1% to 29.9%) are likely to quit if smoking were banned in social venues. A criterion used to select the sample for further analyses was frequency of patronage at social venues. As can be seen in table 1, bars were visited at least monthly by 60% of smokers, nightclubs were visited at least monthly by 21% of smokers, and gaming venues were visited at least monthly by 23% of smokers. The 409 (69%) smokers who reported at least monthly patronage of at least one of these venues constituted the sample for the remainder of the analyses.

Table 2 shows the demographic characteristics, smoking behaviour, and opinions of at least monthly and less than

**Table 2** Characteristics of those who patronise social venues at least monthly and less than monthly

	n	At least monthly (n=409)	Less than monthly (n=188)	p Value
Percentage of total†	597	68.5	31.5	
Age (% <30)	594	33.5	9.0	0.000***
Sex (% female)	597	49.1	69.7	0.000***
Education (% less)	595	50.5	63.1	0.004**
Nicotine dependence (% yes)	597	49.9	54.8	0.265
Made quit attempts (% yes)	591	79.3	81.2	0.588
Safe number of cigarettes (% yes)	597	14.4	12.2	0.470
Bans (% approve/neither)	579	64.7	75.8	0.008**
Stage of change (precontemplation)	597	51.8	58.5	0.128

†This differs from the level reported in the text because this is an unweighted figure.

\*\*p<0.05

\*\*\*p<0.001

**Table 3** Differences between those likely or not likely to quit if bans

	n	Likely (n=100)	Not likely (n=309)	p Value	Odds ratio (95% CI)	p Value
Percentage of total†	409	24.4	75.5			
Age (% <30 years)	395	47.0	29.2	0.001**	1.73 (1.03 to 2.88)	0.037**
Sex (% female)	398	45.0	50.7	0.326		
Education (% less)	397	49.0	50.5	0.795		
Nicotine dependence (%yes)	398	44.0	52.3	0.148		
Made quit attempts (% yes)	394	84.8	77.3	0.109		
Safe number of cigarettes (% yes)	398	19.0	12.8	0.123		
Socially cued smoker (yes)	398	85.0	64.8	0.000***	2.64 (1.40 to 5.00)	0.003**
Bans (%approve/neither)	388	79.8	58.8	0.000***	2.44 (1.39 to 4.30)	0.002**
Stage of change (precontemplation)	398	35.0	56.4	0.000***	2.22 (1.35 to 3.67)	0.002**

†This differs from the level reported in the text because this is an unweighted figure.

\*\*p<0.05

\*\*\*p<0.001

CI, confidence interval.

monthly patrons. The results show that smokers who patronise social venues at least monthly were more likely to be younger, male, have higher educational attainment, and lower approval of bans than smokers who patronise social venues less than monthly.

Factors associated with intention to quit smoking if social venues became smoke-free were investigated (table 3). The results show that smokers who are likely to quit if there were bans in social venues were likely to be younger, socially cued (that is, smoke more in social venues), express greater approval of bans, and be contemplating or preparing to quit, compared to those not likely to quit if there were bans.

Variables found to be significantly associated with an increased perceived likelihood of quitting in the bivariate analyses were entered into a logistic regression analysis and 386 cases were included in the final analysis. Table 3 shows a model containing four variables which provide a significant fit to the data ( $\chi^2 = 44.16$ ,  $df = 4$ ,  $p = 0.000$ ). Compared to smokers not likely to quit in response to smoking bans, smokers likely to quit were two and a half times more likely to be socially cued (that is, to smoke more in these venues), twice as likely to be contemplating or preparing to quit, twice as likely to approve of bans in social venues, and one and a half times more likely to be aged under 30 years.

Since being a socially cued smoker was strongly associated with intention to quit if social venues became smoke-free, further analyses were conducted to investigate the characteristics of this group. Table 4 indicates that compared to others, socially cued smokers were younger, had a lower indication of dependence, had previously tried to quit, and believed there is a safe level of cigarette consumption.

Variables found to be significantly associated with membership of the socially cued smoker category in the bivariate

analyses were entered into a logistic regression analysis and 402 cases were included in the final analysis. Table 4 shows a model containing three variables which provide a significant fit to the data ( $\chi^2 = 54.17$ ,  $df = 3$ ,  $p = 0.000$ ). Compared with smokers not socially cued, socially cued smokers were six times more likely to be under the age of 30 years, two times more likely to believe that there is a safe level of cigarette consumption, and two and a half times more likely to have previously made a quit attempt. Because socially cued smoking and age are highly correlated we did additional analyses relating predictors to age, but found nothing to suggest the results were due to residual confounding.

## DISCUSSION

The findings from this study suggest that the smoking behaviour of a large proportion of smokers, especially young smokers, may be influenced by the imposition of smoke-free policies in bars, nightclubs, and gaming venues. Overall, 69% of smokers report patronising social venues at least monthly. The majority (70%) of smokers who frequently patronise social venues report that they smoke more in these settings (socially cued smokers) and, to the extent that this is true, are likely to reduce their consumption overall if smoking were banned in social venues. Further, a quarter of smokers who frequently patronise social venues reported that they would be more likely to quit smoking altogether if smoking was banned in hotels, licensed bars, gaming venues, and nightclubs. The generalisability of these results needs to be considered in the light of modest response rates. We suspect non-respondents might be more likely to attend social venues (thus being harder to reach for surveying), thereby possibly underestimating the proportion of smokers who attend social venues at least monthly.

**Table 4** Differences between socially cued smokers and not socially cued smokers

	n	Cued (n=287)	Not cued (n=122)	p Value	Odds ratio (95% CI)	p Value
Percentage of total†	409	70.2	29.8			
Age (% <30 years)	406	42.5	12.4	0.000***	6.15 (3.32 to 11.42)	0.000***
Sex (% female)	409	51.2	44.3	0.198		
Education (% less)	408	50.3	50.8	0.931		
Nicotine dependence (% yes)	409	45.6	59.8	0.009**		
Made quit attempts (% yes)	405	82.3	72.1	0.020**	2.60 (1.47 to 4.59)	0.001**
Safe number of cigarettes (% yes)	409	17.1	8.2	0.019**	2.25 (1.06 to 4.76)	0.034**
Bans (% approve/neither)	397	64.7	64.7	0.994		
Stage of change (precontemplation)	409	49.8	56.6	0.213		
Likely to quit if bans (more)	398	30.6	12.5	0.000***		

†This differs from the level reported in the text because this is an unweighted figure.

\*\*p<0.05

\*\*\*p<0.001

CI, confidence interval.

Our estimate of possible quitting at 25% is higher than that reported by Philpot and colleagues<sup>24</sup> who found that 11.5% of people interviewed while queuing for admission to bars and nightclubs (a younger sample than ours) said that adoption of smoke-free policies in hospitality venues “would prompt them to quit”. Our question was not as strongly worded, so a greater level of agreement would be expected. Furthermore, younger people in our sample were also more likely to agree that bans would increase likelihood of quitting and this is consistent with Philpot and colleagues’ younger sample. Regardless of the exact level, a significant minority of smokers, especially socially cued and younger smokers, believe bans in these venues will help them to quit. It may be the case that smokers act differently in practice, as opposed to what they say they would do in response to smoking bans. Therefore, a priority for subsequent research enquiry would be to conduct studies to determine how much quitting and decline in consumption is actually generated when smoking bans are implemented in such venues. In this respect, observational studies of smoking behaviour in smoking permitted and restricted venues, or cohort studies of how frequent attenders of social venues may change their smoking patterns following the introduction of smoke-free policies, would be informative.

Socially cued smokers are six times more likely to be under the age of 30 than non-socially cued smokers. Thus, the introduction of smoke-free policies in bars, nightclubs, and gaming venues could act as a strategy for preventing the uptake of regular smoking. This possibility has already been raised by some tobacco control advocates who refer to bars and nightclubs as “nicotine classrooms” (G Connolly, personal communication, 2 November 2001). Recent evidence of tobacco industry marketing which targets young people in bars and nightclubs<sup>16–18</sup> also supports this suggestion.

The group of socially cued smokers we identified are likely to be significant beneficiaries of smoke-free policies in social venues. As a group, they are young and hold beliefs that low levels of smoking are not particularly harmful. As a result it would seem that they think what they are doing is safe. This might be so, in relative terms, if they were not putting themselves at risk of dependence and the subsequent harmful long term use this entails.

The findings from this study suggest that a reason for strong tobacco industry opposition to smoke-free policies in bars, nightclubs, and gaming venues may be because of their concern at the possibility that it will encourage cessation and remove a context where many young people are induced to try smoking. Further research to evaluate the effects of smoke-free policies in these venues on smoking behaviour is required.

### What this paper adds

Restrictions on smoking in the workplace and at home reduce levels of smoking in adults. We sought to determine if this may also be the case for recreational venues such as pubs and clubs. A cross sectional survey found that 69% of smokers report patronising bars, nightclubs or gaming venues at least monthly, and 70% of those who patronise social venues at least monthly report smoking more in these settings (socially cued smokers). These people are aged under 30 years, have made previous quit attempts, and believe there is a safe number of cigarettes that can be smoked before their health can be affected. Further, 25% of smokers who frequently patronise social venues report that they would be more likely to quit altogether if there were bans in these venues. These people are likely to be aged under 30 years, contemplating or preparing to quit, and approve of bans in social venues. These findings suggest that smoking restrictions in social venues may reduce smoking prevalence among patrons.

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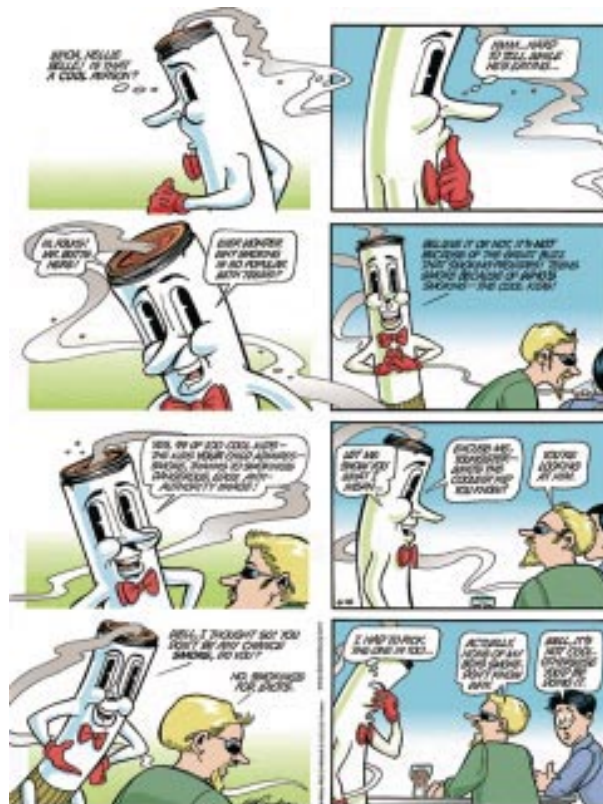
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